

Book Review

Internet of Things and the Law: Legal Strategies for Consumer-Centric Smart Technologies

by Guido Noto La Diega
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The Internet of Things (IoT), along with select few other technological phenomena, are at the forefront of a push towards digitization. The far-reaching implications of smart devices explain why the topic keeps making headlines, for better and for worse. With an estimated rollout of roughly 41 billion smart appliances by 2025, the interconnection between everyday objects will undoubtedly affect businesses and consumers alike.¹ Not only popular literature² attests to this but also lengthy reports³ from market intelligence bureaus and sector inquiries⁴ from the European Commission and national competition authorities. If anything, it is clear that both public and private stakeholders are looking to capture and create value via smart technology. At the same time, it is equally apparent that many legal aspects of the IoT remain misunderstood today.

With *Internet of Things and the Law*, Guido Noto La Diega—Associate Professor of IP & Privacy Law at the University of Stirling—embarks on an ambitious, yet successful, journey to map the profound impact of the IoT on contemporary legal systems. The book's starting premise is that smart devices contribute to a two-dimensional flow of information: on the one hand, our physical world is continuously being permutated into computable information (dematerialization), and on the other hand, aggregated data are constantly being relied upon to change the physical world (rematerialization). Throughout his book, Noto La Diega demonstrates that these dynamics are slowly but surely blurring the boundaries between goods–services,

¹ European Commission, 'The next generation Internet of Things' *European Commission* (3 October 2022) <<https://digital-strategy.ec.europa.eu/en/policies/next-generation-internet-things>> accessed 10 October 2022.

² Consider, for instance, X, 'Chips with everything: How the world will change as computers spread into everyday objects' (2019) 432 *The Economist* 13.

³ Michael Chui, Mark Collins and Mark Patel, 'The Internet of Things: Catching up to an accelerating opportunity' (2021) McKinsey Global Institute Papers 83 p.

⁴ European Commission, 'Final report–Sector inquiry into consumer Internet of Things' (2022) SWD(2022)10 final 118 p.; Bundeskartellamt, 'Sector inquiry smart TVs–Conclusion and recommendations for action' (2020) Az. V-22/17 19 p.

hardware–software, and tangible–intangible, thus making it difficult to adequately regulate the IoT. While an interconnected world is said to improve our every livelihood, it quickly becomes apparent that smart ecosystems are exerting increasing amounts of control over their end users. In turn, this raises the question of whether the law can steer the development of the IoT in a more human-centric direction. The book relies on six substantive chapters to answer this question in the negative and concludes by contending that the divide between goods services, hardware–software, and tangible–intangible belongs to the past. Although Noto La Diega does not see a role for IoT-specific laws or dedicated IoT authorities, he argues in favour of a more tactical, consumer-centric interpretation of existing legal rules in combination with a select number of legislative reforms. Yet, eventually, a more human-centric IoT will only be attained by virtue of an open IoT. From that perspective, Noto La Diega's push away from a silo-based approach to the IoT makes perfect sense.

Internet of Things and the Law offers a refreshing account of the legal implications of the IoT. With his book, Noto La Diega manages to fill a noticeable gap in legal literature by offering readers a thorough overview of what is at stake within several branches of law, including consumer law, contract law, data protection law, competition law and intellectual property law. By studying the underlying technology in detail, the book's main findings remain firmly in touch with reality. Moreover, with the book's consumer-oriented angle being clarified at the outset, readers will easily be able to keep track of the overarching line of reasoning across the different legal domains. In terms of the book's substantive findings, especially the contractual and non-contractual implications of the IoT are meticulously expanded upon, which is the result of the author's efforts to parse extensive legal documents pertaining to smart devices. As such, the book is able to capture some of the frustrations experienced by would-be smart device owners as well. Furthermore, it is interesting to find that the book addresses several new trends and developments, which have not yet received much attention in scholarly writings. Servitisation (ie offering products as a service) is just one example that comes to mind. Hence, while the book draws from the existing body of scholarship at some points, it also succeeds in advancing the state of the art in several respects.

As to the writer's perspective, the book takes a clear European, socio-legal angle and, by focusing on legal matters, will especially cater to academic and legal scholars. Although the writing perspective is specifically tailored to this target audience, Noto La Diega's work may also prove insightful to legal practitioners who are looking to gain a deeper understanding of the theoretical underpinnings of the IoT and the applicable legal instruments. To a lesser extent, consumers may turn to *Internet of Things and the Law* in order to better understand the mostly legal but also practical implications of smart devices. On a separate note, the book may at times sit uneasy with more liberally minded readers, since the author occasionally draws from KARL MARX's ideas on capitalism and socialism. Nonetheless, this certainly fits the book's narrative and the attempt to make a case for a 'common', open IoT.

The methodology used throughout the six substantive chapters mostly involves traditional desk-based research, supplemented with case studies where appropriate. In doing so, some of the book's theoretical findings are validated by considering the functioning of smart products, such as the Amazon Echo smart speaker. At some points, the author also relies on his personal experience as a researcher to substantiate certain claims. This includes, for instance, submitting a Data Subject Access Request to Amazon pursuant to Article 15 of the GDPR. All in all, the monograph is well-referenced and touches on a great number of source materials, which will certainly appease readers eager to learn more about matters of detail.

Internet of Things and the Law is an interesting read for scholars looking to acquire more insights into the IoT. For one, it is difficult to argue against Noto La Diega's recommendation for a more human-centric development of IoT technology. That being said, it is also worth touching

on a few points of critique. A first reservation applies to underexpose of incentives to innovate for entrepreneurs. While the book takes a clear stance apropos the need for an open IoT, a concern is that such views are not always reconcilable with reality. It seems that, at times, the book forgoes the fact that firms must be able to extract at least some form of reward for their inventiveness in order to continue their R&D efforts. When the ability to reap the rewards of inventiveness is impeded, one eventually risks arriving at an innovation standstill; a line of critique that especially applies to the discussion on intangible property (chapter 6) as well as data ownership (chapter 5). Hence, when considering the need to balance rewards against incentives to innovate, a common, truly open IoT will in all likelihood remain a distant dream. A second issue is that IoT technology is a fast-moving target. The choice to offer a comprehensive overview of different legal branches is, of course, laudable but also ties into the ‘broad knowledge’ versus ‘deep knowledge’ trade-off. At the time of the book’s publication, several new developments have occurred in some of these branches. These developments include the entry into force of new legal instruments (eg the Digital Markets Act), and the arrival of proposals for new legislation in the field of data (eg the Data Act) and product liability (eg the General Product Safety Regulation). Moreover, several new topical cases have been referred to the CJEU for a preliminary ruling (eg *Meta Platforms and Others*⁵), whereas other referrals have been removed from the Court’s register (eg *Nokia Technologies*⁶).

In summary, the book’s main claim relating to the human-centric nature of the IoT is bold but necessary. It is clear that binary distinctions between hardware–software, online–offline, and tangible–intangible are no longer tenable: as is often the case, reality is grey rather than black or white. Noto La Diega’s writings are able to convey this sentiment rather well, which is why *Internet of Things and the Law* succeeds in sparking the debate about the future of the IoT.

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⁵ Request for a preliminary ruling in C-252/21, *Meta Platforms and Others*; C-252/21, *Meta Platforms and Others* [2022] ECLI:EU:C:2022:704, Opinion of Advocate General RANTOS.

⁶ Request for a preliminary ruling in C-182/21, *Nokia Technologies*.